

# CHAPTER 4

## CUMULATIVE AND SECONDARY IMPACTS

The purpose of cumulative effects analysis is to ensure that federal agencies consider the full range of consequences of actions. The National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations require analysis of cumulative problems within the context of the action, alternatives, and effects. The CEQ regulations that implement procedural provisions of NEPA (40 CFR Sections 1500-1508), as amended (42 USC Sections 4321 et seq.) define cumulative effects as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR Section 1508.7)”. In principle, the context in which cumulative analyses should occur includes resources, ecosystems, and human communities considered over a meaningful geographic space and through time (past, present, and future). Cumulative effects must be evaluated along with direct and indirect effects (see Secondary Effects, Section 4.2) of each alternative. The No Action (or “No Build”) Alternative serves as the baseline against which to evaluate cumulative and secondary effects.

### 4.1 CUMULATIVE IMPACTS

Potential for cumulative impacts to resources, ecosystems, and human communities was assessed by Department staff and included information obtained through technical studies and scoping meetings with the public and government agencies. Cumulative impacts related to the irretrievable use of resources in construction of the project (land, fossil fuels, labor, and highway construction materials) are not considered to be individually or cumulatively substantial. The benefits of increased traffic capacity and improvements to safety and local drainage are anticipated to outweigh the need to convert the project area to other uses in the future. With the exception of a potential cumulative contribution to regional farmland conversion impacts, no potential for substantial contributions to cumulative impacts upon resources, ecosystems, and human communities were identified as the result of the proposed project. Long-term urban development in the area by others may be expected to produce cumulative effects. These potential effects are described below.

#### ***Growth***

The city of El Centro is planning for future growth within its Sphere of Influence (please see chapter 3 for details of locally planned growth). The Department is also planning capacity improvements to the regional highway system on SR 111 between El Centro and Brawley and to the interchange at I-8 and SR 86 in El Centro. The potential contribution of the proposed project to cumulative growth effects associated with planned and unplanned increases in residential and commercial development and regional highway construction was analyzed and determined to be limited to the connectivity to the local circulation system that the reconstructed interchange would provide. The construction of Imperial Avenue south of the interchange to McCabe Road is

included in the *City of El Centro General Plan* and would be the result of planning decisions made by City and County agencies.

The cumulative intensification of planned or unplanned growth is expected to be the result of local and regional planning decisions not dependent on reconstruction of the I-8/Imperial Avenue interchange. Construction of locally planned residential development is expected to generally contribute to increased impacts to the local and regional circulation system, and these impacts are addressed in project-specific planning and environmental documents as well as in City and County general plans. The proposed interchange reconstruction project is not expected to shift growth trends away from those already planned within the *City of El Centro General Plan* and *City of El Centro Redevelopment Plan*. Access currently exists for all planned development within El Centro south of I-8 and does not depend on reconstruction of the I-8/Imperial Avenue interchange. The extension of Imperial Avenue by others holds the potential to induce additional growth south to McCabe Road, an area within the El Centro Sphere of Influence and the *City of El Centro Redevelopment Plan*. Potential for growth inducement beyond the Sphere of Influence cannot be determined due to the lack of planning documentation in that regard. Please see chapter 3, section 3.1 *Land Use* for details on planned growth south of I-8.

The interchange reconstruction project is proposed within the context of: 1) substantial projected population increases for the County, 2) existing approvals for housing construction and existing potential for commercial expansion in the project vicinity, 3) existing access to areas constructed and planned for development south of I-8, and 4) development goals and infrastructure provisions in the *City of El Centro General Plan* and *City of El Centro Redevelopment Plan*. Maximum land use impacts for the proposed project are expected to be 5.0 ha/12.4 ac and will not contribute a substantial cumulative impact to total City or County lands available for economic development or housing. Non-transportation projects that are expected to have cumulative impacts related to growth include the Northgate Plaza Project north of I-8, the proposed commercial shopping mall at Dogwood and Danenburg Road, the North Village Project (residential) north of I-8, the Wake Avenue Auto Park Subdivision and other subdivision projects as described in Chapter 3, sections 3.1 and 3.3. None of these projects are dependent on access provided by the interchange reconstruction. Please also see appendix A, exhibit 13, *El Centro Zoning & Land Use Map* and appendix A, exhibit 15, *El Centro Urban Development Program* for additional details of existing development and locally planned growth.

All “build” alternatives would provide short-term benefits as described in chapter 1, section 1.3. Reconstruction of the interchange, in conjunction with new highway capacity-increasing improvements under construction or proposed by the Department within the region, would additionally contribute positively over the long term to the overall cumulative capacity of the Imperial County highway system. This increase in overall capacity would produce the beneficial effect of reducing increases in regional traffic congestion associated with predicted increases in County population growth and increased truck traffic associated with the implementation of the North American Free Trade Agreement (NAFTA). No cumulatively substantial impacts related to growth are expected as the result of the reconstruction of the I-8/Imperial Avenue Interchange and no mitigation is proposed for cumulative growth impacts.

### ***Farmland***

California agriculture remains one of California’s largest industries with gross receipts of \$25 billion per year. According to the most recent Census of Agriculture data (1997) from the U. S. Department of Agriculture, prime farmland in California was converted to developed land at a rate of 17,000 acres per year. From 1992 to 1997, the number of farms in Imperial County

decreased from 657 in 1992 to 557 in 1992. The total number of farmland acres within the County during the same period decreased from 532,866 to 489,726. Planned non-transportation projects within the project vicinity, including a proposed commercial/retail mall near Dogwood and Danenburg Road (appendix A, exhibit 13, *El Centro Zoning and Land Use Map*), the Wake Avenue Auto Park Subdivision and planned housing developments (described in Chapter 3, section 3.3), will convert hundreds of acres of historically farmed land within the City and County. Additional agricultural lands south of I-8 and within the El Centro Sphere of Influence could be annexed for future development as per the El Centro General Plan objectives.

Acquisition of R/W for the proposed project would impact as much as 5 ha/12.4 ac (Alternative 2) of historically farmed lands. Alternative 4 would impact 2 ha (5 ac) and Alternative 5 would impact 4.3 ha (10.6 ac) of historically farmed lands, respectively. Historically farmed land within the project area is classified as Farmland of Local Importance by the California Department of Conservation. Farmland of Local Importance is defined as unirrigated and uncultivated land with Prime and Statewide Important soils. However, due to the combined factors of planned and approved land uses and lack of irrigation and cultivation over recent years, only 1.1 ha (2.7 ac) of historically farmed land impacted by this project qualify as farmland.

Table 4.1-1 below lists major Department projects that impact farmland within the Imperial Valley and have been constructed in the last ten years or are planned for construction in the next 10 years. Total direct impacts to farmland from Department projects is approximately 1215 ha (3003 ac). Impacts from projects by other agencies and developers and the resultant potential for induced growth would add to this total. The acreage figures provided in table 4.1-1 include non-farmable remnants (indirect-or secondary-impacts in the immediate location). Lands impacted by some projects held the potential for farming and high-intensity agricultural operations. The Route 86 (Riverside County), Route 7, Route 78/111 Brawley Bypass, and Route 115 projects are located on new alignments. A new highway alignment may cause additional impacts to agricultural operations such as: bisection of fields, impacts beyond the direct project footprint to irrigation and drain systems, and changes in farm operations due to addition or removal of access roads. New highway locations also have the potential to foster land development associated with new highway access and capacity increases. Although no state or federal law explicitly prohibits conversion of agricultural lands to other uses, Federal, State, and local jurisdictions have established policies indicating the importance of farmland. Policies expressed by the U.S. Congress in the Farmland Policy Protection Act of 1981 and by Imperial County through its general plan direct agencies to avoid, whenever practical, locating public improvements within agricultural preserves or acquiring high quality agricultural lands for transportation improvements.

#### *Mitigation*

The Department will purchase agricultural conservation easements as mitigation for cumulative farmland impacts in the Imperial Valley, including the 2 ha (5 ac) of additional farmland impacts required for either Alternative 2 or 4. Farmland will either be purchased and resold by the Department with an agricultural conservation easement(s) in place, or funding will be provided to a local governmental agency, which will purchase easements. A local governmental agency would serve as legal holder of the easements, which constitute “in perpetuity” deed restrictions. Mitigation for farmland impacts resulting from the proposed project will be programmed into project costs. It is expected that a Cooperative Agreement will be reached between the Department and the County of Imperial in 2003, which will facilitate implementation of cumulative farmland impact mitigation. Agricultural conservation easements are likely to protect farmland at a one-to-one ratio. Consultation with additional interested agencies and organizations

such as the Natural Resources Conservation Service may help determine appropriate mitigation ratios according to farmland types; e.g., Prime or Statewide Important Farmland. Agricultural conservation easements will be purchased with State or combined State and local funds (FHWA funding is not available). For more details on agricultural conservation easements, please see appendix F, *Agricultural Conservation Easements*.

**Table 4.1-1 Cumulative Farmland Impacts in the Imperial Valley Region**

PROJECT	Approximate Farmland Impacted	Construction Status
Route 86 Westmorland to Route 78	152 ha (375 ac)	constructed
Route 86 Westmorland to Brawley	45 ha (110 ac)	constructed
Route 7 Port of Entry to Route 98	35 ha (87 ac)	constructed
Route 86 Riverside County	372 ha (920 ac)	constructed
Route 111 Ross Road to Brawley	140 ha (345 ac)	in progress
Route 111 Realignment Changes	51 ha (125 ac)	In progress
Route 7 Route 98 to I-8	119 ha (295 ac)	proposed
Route 111 Stage 3 Changes	1 ha (3 ac)	proposed
Route 78/111 Brawley Bypass	161 ha (400 ac)	proposed
Route 115 Evan Hughes Hwy to I-8	81 ha (200 ac)	proposed
Route 98 Route 111 to Route 7	57 ha (140 ac)	proposed
I-8/Imperial Avenue Interchange	1.1 ha (2.7 ac)	proposed
<b>Total Farmland Impacts</b>	<b>1215 ha (3003 ac)</b>	

### ***Air Quality***

As noted in section 3.17, no substantial effects related to air quality are expected from the proposed project, including increases in air pollutant emissions or deterioration of ambient air quality. Air quality impacts related to growth and non-transportation projects can be expected to contribute to long-term cumulative effects. The greatest increases in growth are predicted to be outside the project area in unincorporated areas (see chapter 3, table 3.3-1). No additional growth is planned or expected as the result of the interchange reconstruction. The contribution of the I-8/Imperial Avenue Interchange reconstruction project to cumulative temporary air quality impacts is expected to be non-substantial with implementation of Best Management Practices (BMPs) as described in chapter 3, section 3.17. Other proposed projects in the area, including residential developments and the potential extension of Imperial Avenue may produce temporary cumulative adverse air quality impacts in the area during construction. Timing of construction for these planned developments is uncertain and there is no indication that they are all to be constructed concurrently.

### Noise

Existing development in the project vicinity is residential and commercial/retail motel operations. Planned development south of I-8 is of the same type as existing development north of the project area. The contribution of the proposed project to cumulative noise impacts within the project vicinity is expected to be non-substantial. Possible future commercial development at the southwest I-8/Imperial Avenue interchange may contribute cumulatively to noise in the project vicinity. Mitigation of project specific and cumulative impacts will be the responsibility of future developers and the City of El Centro. Please see section 3.7 for a discussion of specific noise impacts related to the interchange reconstruction and section 4.2 (below) for a discussion of project-related secondary impacts.

### Biology

Cumulative effects to endangered or threatened species, or critical habitat are the combined impacts of past, present, and reasonably foreseeable future actions by an agency or agencies (Federal or non-Federal) or person(s) that are likely to occur as the result of a project or projects. Cumulative impacts may result from past incremental impacts, actual project impacts (including material sites if designated), and future conversion of native habitat to agriculture and urban development throughout the corridor served by a roadway project.

Another transportation project within the project vicinity but proposed by others is the extension of Imperial Avenue between the interchange and McCabe Road. Portions of this project are tentatively scheduled to be constructed by the end of 2005 (appendix A, exhibit 26, *El Centro Engineering Division Letter*). This and the conversion of additional former and current agricultural sites to urban or commercial uses (in conjunction with the planned Farmer's Estates, Desert Villages, and Buena Vista subdivisions) could potentially affect any listed species that may occur in the general area. With additional urban expansion that might occur through development and annexation of more lands by the city of El Centro, both farm fields and the remaining native communities species could be physically harmed or harassed, subject to loss of foraging habitat, or prone to higher incidents of injury and mortality due to encounters with humans. Past and present land use and development has already eliminated the majority of native vegetation in the areas south of I-8, but has not prevented to date the utilization of these habitats by wildlife.

Impacts to agricultural fields and drains resulting from the interchange reconstruction and other non-transportation projects will eliminate habitat and foraging areas for several bird species, including the sensitive burrowing owl (*Athene cunicularia*) in the region. Burrowing owls (protected under the Migratory Bird Treaty Act) are known to utilize agricultural lands in the Imperial Valley and were observed on the dirt berms surrounding the interchange and bridge abutments on the southeast side of I-8. Natural fluctuations in owl populations and abundant availability of burrows confound efforts to determine cumulative impacts to owls on an annual basis in the general area. All agricultural fields, drains, and dirt berms are considered potential habitat and foraging habitat for burrowing owls. Currently, over 425,000 acres of land are in agriculture in the Imperial Valley, including a large amount of farmland habitat available adjacent to the project area. Although long-term urban development in the area can be expected to have a cumulative effect on burrowing owl habitat, it is the determination of Department biologists that impacts to owl habitat resulting from the interchange reconstruction project are minimal and no reasonably foreseeable and substantial contribution to cumulative impacts is likely to result.

### ***Visual***

Reconstruction of the interchange would not contribute to a substantial cumulative alteration of the visual character of the project vicinity. The interchange is being reconstructed at the same location as the existing interchange and measures will be implemented to avoid any substantial contribution to cumulative visual impacts to the motorist and community (please see chapter 3, section 3.14 Visual/Aesthetics for details). Potential exists for future commercial or retail development within the southeast quadrant of the project vicinity of a type that could produce cumulative visual impacts consistent with those of existing development on the north side of I-8. Cumulative visual impacts resulting from this and other urban development south of I-8 would be subject to environmental review and mitigation as required by the City of El Centro. Potential also exists for future landscaping by others at the I-8/Fourth Street (Route 86) interchange to the east, consistent with that which would be implemented for the proposed interchange reconstruction project. This would be expected to produce a beneficial cumulative visual impact along I-8 within El Centro. No substantial contribution to adverse cumulative visual impacts are anticipated as the result of reconstruction of the interchange.

### ***Water Quality and Floodwater***

The project will contribute to a cumulative increase over time in the amount of impervious area and volume of surface runoff in the area south of I-8 near the interchange. To avoid the potential for water quality and floodwater cumulative impacts, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared as the Special Provisions of the construction contract. The project shall be designed and constructed in conformance with the National Pollutant Discharge Elimination System (NPDES) and *Caltrans Storm Water Quality Handbook* requirements. Best Management Practices (BMPs) would also be implemented. Locally approved residential developments have been and will be designed by local agencies to not exceed current IID capacity or will be required to construct improvements to the local drainage system that will provide additional capacity. Increased flow volume into the IID drains that results from the interchange reconstruction is not expected to cumulatively exceed current potential capacity of the IID system. Stormwater plans and infrastructure improvements will be requirements for approval for future developments by others in the area. With implementation of mitigation measures as described in section 3.8 of chapter 3, no adverse cumulative impacts to water quality are expected to result with the proposed interchange reconstruction.

## **4.2 SECONDARY IMPACTS**

Secondary impacts are defined as being considered reasonably foreseeable under the National Environmental Policy Act (NEPA) but uncertain as to their timing and extent due to the variable factors of market demand and other growth parameters.

### ***Growth***

All of the “build” alternatives would have a similar relationship to secondary growth impacts (or indirect impacts) on a regional basis. The *City of El Centro General Plan* and *City of El Centro Redevelopment Plan* provide for orderly planned growth in the vicinity of the proposed I-8/Imperial Avenue interchange reconstruction. The project could contribute secondary impacts related to growth, including:

- Increased property values for land adjacent to the proposed interchange reconstruction and the planned extension of Imperial Avenue to McCabe Road by others.

- Accelerated commercial development of lands adjacent to the proposed project in the southeast quadrant of the project area and development of underused and vacant commercial sites along Imperial Avenue to the north of the interchange.
- Increased city and county tax revenues as residential and commercial land values rise and accelerated rates of development are encouraged. Planned development in the project vicinity is expected to independently produce secondary impacts to public services and utilities within El Centro (see Chapter 3, Section 3.3.5 and Section 3.15 for details).

Additional areas south of I-8 and within the El Centro Sphere of Influence could be annexed for future development as per the *City of El Centro General Plan* objectives. These lands are mostly current farmlands and are accessible from the north and south along La Brucherie Road and Eighth Street, and from the east and west along Wake Avenue and McCabe Road. Improved access and increased capacity at the I-8/Imperial Avenue interchange could remove obstacles to growth in these areas, which are considered for future development within the *City of El Centro General Plan*. The rate of growth could be increased by improved southerly access, but would be expected to occur within planned urban development areas. Growth patterns are not expected to shift from existing trends and those already planned as the result of the interchange project. Interest in development investments outside the existing El Centro Sphere of Influence could increase through time but would be an effect of Imperial County's increasing population base (the highest expected population growth rate of all southern California counties through 2020) and gradually expanding economy. No plans currently exist for annexation of lands outside the current El Centro Sphere of influence boundaries. The *Imperial County General Plan* serves as the primary growth management document for Imperial County and identifies preservation of the regional agricultural economy as a major objective. Secondary effects to farmland are also buffered by the Imperial County right-to-farm ordinance and County participation in the Williamson Act. No secondary growth in regional cities is anticipated due to the interchange reconstruction.

No mitigation measures are required because the city of El Centro has approved growth in the project area to accommodate demand for development. Developers will be required by the city to provide appropriate mitigation. The Department is not responsible for cumulative growth mitigation.

### **Noise**

Traffic noise level increases in the range of 1-5 dBA are predicted to occur through the year 2025 in the project area. The Noise Study Report prepared by the Department determined that these increases would be due to predicted traffic volumes through the year 2025 and due to higher capacity of the reconstructed interchange. The secondary effect of noise increases through time would be expected to be mitigated by construction of proposed noise abatement at or near the R/W lines of the project on the north side of I-8 adjacent to residential units east and west of Imperial Avenue. The extension of Imperial Avenue by others would alter traffic circulation patterns in the project vicinity. Increases in project area traffic noise related to this change would be the responsibility of others. Additional increases in noise impacts expected through 2025 that are related to subdivision development would be mitigated by developer impact requirements. No contribution to regional noise levels would be expected from the proposed project. For details of noise impacts and proposed abatement measures for this project, please see Chapter 3, Section 3.7.

### ***Traffic***

Secondary effects related to changes in circulation and traffic patterns would be expected with reconstruction of the I-8/Imperial Avenue interchange. Predicted increases in traffic congestion through 2025 at the I-8/Fourth Street interchange and at other vicinity intersections, such as at I-8/Fourth Street (Route 86), would be reduced by the diversion of traffic to Imperial Avenue and McCabe Road. Secondary effects of reconstruction of the I-8/Imperial Avenue interchange related to traffic and circulation are described in further detail in Chapter 1 *Purpose and Need*, Section 1.4.